

Equine Rabies: What Every Horse Owner Should Know



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Overview

- What causes Rabies
 - Statistics and Epidemiology
- How does my horse get Rabies?
- Clinical Signs of Rabies
- Diagnosis
- Treatment ?
- Vaccination
- Prevention of Rabies



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Rabies Virus



- Acute fatal viral disease
- Genus *Lyssavirus*, family Rhabdoviridae
- Bullet shaped RNA virus
- Two genotypes
 - 1- Classic (fox, raccoons, skunks, etc.)
 - 2 – Bat variant
- Worldwide distribution except UK, Ireland, Australia, NZ, Iceland, Scandinavia

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Rabies Statistics

- More than 55,000 people die of rabies each year, about 95% of the deaths are in Asia and Africa*
 - In 2008, 6,841 cases of rabies in animals were reported in the US and 2 cases in humans**
 - 93% were wildlife (raccoons – 34.9%, bats, skunks, foxes)
 - 7% domestic animals (cats – 4.3%, dogs – 1.1%)
- *World Health Organization; ** CDC

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Rabies in Horses

- From 2005-2006, rabies cases in horses and mules increased 12.8% (*Blanton et al*)
 - But decreased by 20% in 2007 (42 horses in US)
- Since 2006, 8 horses in Florida have died from rabies
- FATAL in all mammals with clinical signs
 - 1 human survivor (2004) with no vaccination
- Death occurs in 3-7 days once signs develop

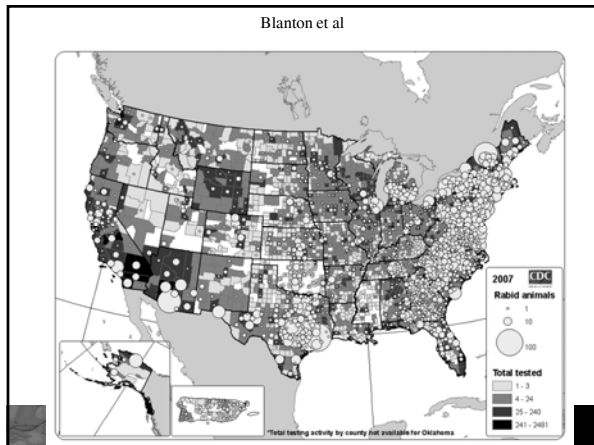
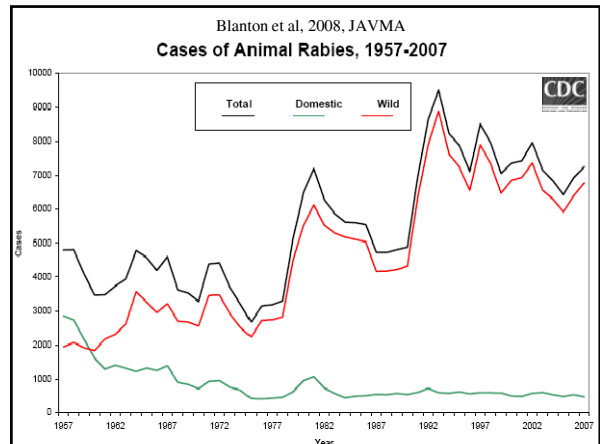
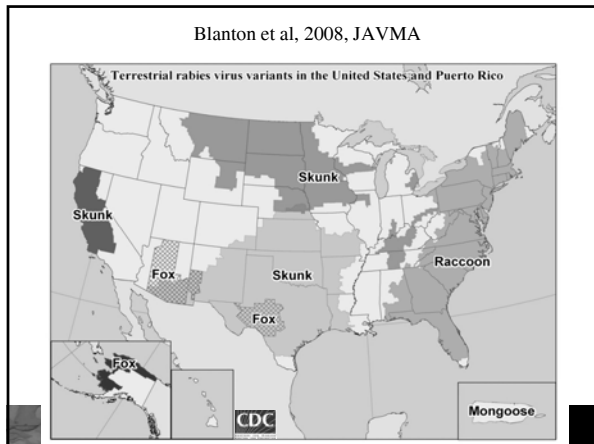
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Common Risk Factors for Horses

- Live in an endemic area
- No vaccination
- Horse lives outside 24 hours/day
- Young > old
- No breed or gender predisposed
- Typically affects one horse on a farm



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Who Can Get Rabies?

- ZONOTIC!
- Horses and other domestic livestock
- People
- Dogs, cats
- Any mammal that is exposed to rabies may become infected

Photos Courtesy of APHIS

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How Does my Horse Get Rabies?

- Wildlife provides a natural reservoir for the virus
- Horses are curious and may be interested in an animal entering their stall or pasture
- Bite of an infected animal transmits the virus
 - Mucous membrane contact with nervous tissue or saliva
- Virus replicates locally in muscle tissues, then travels up peripheral nerves into the spinal cord and brain
- Time between bite and clinical signs can be long, depending on where they are bitten
 - Usually 2-9 weeks
 - Can be longer than 6 months!

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Clinical Signs of Rabies

- Can look like anything!
- Behavioral changes, blindness
- Ataxia and incoordination
- Fever
- Hypersalivation
- Paresis to Paralysis
- Difficulty swallowing
- Colic
- Obscure lameness

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Rabies



2 Forms of Rabies

- FURIOUS
 - Less common
 - Animal may become hyperexcitable, fearful, or enraged
 - May exhibit aggression
 - Hyperesthesia (increased sensitivity to stimuli)
- DUMB or STUPOROUS
 - Mental depression
 - Inappetance
 - Head pressing
 - Circling
 - Flaccid tongue, tail, anus

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Clinical Signs

- Limb weakness & ataxia
 - Symmetric
 - Worse in pelvic limbs
- Tail weakness
- Perineal analgesia
- Bladder distension or incontinence
- Head tilt, facial paralysis (rare)
- Seizures (rare)



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Other Diseases Can Look Similar

- EEE, WEE, VEE
- West Nile Virus
- Equine Herpesvirus
- Hepatic encephalopathy
- Space-occupying mass
- EPM
- Colic and Others



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Other Diseases Can Look Similar



Diagnosis of Rabies

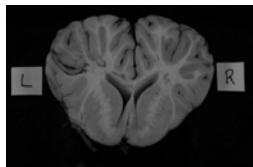
- No definitive ante-mortem test in animals
- Blood tests not specific
- CSF fluid analysis
 - May be normal
 - Xanthochromic (yellow color)
 - Mononuclear pleocytosis
 - Increased protein



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Diagnosis of Rabies

- Best test – post-mortem exam of brain
 - FA on brain
 - Negri bodies seen on histopathology



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Human Exposure to Rabies

- Saliva and brain/nervous tissue are considered infectious material that can transmit rabies
- Petting or handling an animal, or contact with blood, urine or feces does NOT constitute an exposure
- Bite wounds should be IMMEDIATELY washed with soap and water, and a physician should be contacted

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Human Exposures

- BITE Exposures
 - Any penetration of skin by teeth
 - ALL bites represent a risk for transmission
- NONBITE Exposures
 - Virus can enter through open wounds or cuts in skin, abrasions, or direct contact with mucous membranes such as mouth or eyes
 - Very rarely cause rabies, but should be evaluated

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Treatment of Rabies in Animals

- No curative treatment
- Euthanasia is recommended in cases with clinical signs of disease



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Treatment of Rabies Exposure in Un-vaccinated People

- Post-exposure prophylaxis
 - 5 doses IM vaccine
 - Day 0, 3, 7, 14, and 28
- Rabies Immune Globulin
 - Infiltrated around wound
 - Injected IM
 - One dose



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Rabies Vaccination in Horses

- The National Association of State Public Health Veterinarians recommends vaccination for all livestock in frequent contact with humans, and specifically horses that travel interstate
- AAEP (American Association of Equine Practitioners) considers Rabies a CORE Vaccine

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Rabies Vaccination

- Inactivated Vaccines – all induce a strong serologic response
 - Intervet, Fort Dodge, Merial, and Pfizer
 - Most labeled for one dose at 3-6 months and 2nd dose at 1 year
- EquiRab® (Intervet) labeled for one dose primary immunization and 14 months efficacy
 - Labeled for use in foals 4 months and older
- All horses should be annually vaccinated by a veterinarian
- Boost pregnant mares prior to breeding or foaling

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Rabies Vaccination of Foals

- In foals of vaccinated mares, start at 6 months and give 2 doses, then redose at 1 year of age
- In foals of unvaccinated mares, can start as early as 3 months – 2 doses likely to induce more durable immunity



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Can a blood titer be used in place of vaccination in horses?

- Titers have not been demonstrated to correlate directly with protection due to other immunologic factors that play a role in preventing rabies
- The CDC feels that circulating antibodies in animals should NOT be used as a substitute for vaccination

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What if my horse is bitten by a rabid animal?

- IF they have been vaccinated:
 - Revaccinate immediately
 - Observe for 45-90 days
 - Contact list
- IF they have NOT been vaccinated:
 - Euthanize
 - Isolate and observe for 6 months, if signs develop then euthanize immediately and test
 - Contact list

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Rabies Suspects

- Call vet ASAP
- Quarantine horse
- Keep a list of all exposed people
- Wear protective equipment when handling
 - Gowns, gloves



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Rabies Prevention

- Vaccination is highly effective
- Protection cannot be guaranteed
- Minimize contact with wildlife whenever possible
- Secure garbage containers and remove trash
- Do not leave pet food outside



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In Summary

- Rabies is a fatal and zoonotic disease
- If you suspect rabies, contact your veterinarian
- Vaccinate your horse yearly
- Minimize exposure
- Thank you!

